

What is claimed is:

1. An apparatus for a service node used in a multimedia network comprising:
a data distributor circuit;
a data port adapted to couple with a data stream, said data distributor circuit having a relational code adapted to determine whether an address field of a data packet from said data stream is intended for local distribution by said distributor circuit, wherein said data port is operably coupled to said data distributor circuit; and
a decoder in communication with said distributor circuit, said decoder having a virtual channel filter for filtering said address field to route said data packet to at least one data port.
2. The apparatus of Claim 1 further comprising an incorporator circuit electrically-coupled to said data port adapted to insert an address value having a relational code and a virtual channel code in a data input from said at least one data port, said incorporator adapted to insert said data input into said data stream.
3. The apparatus of Claim 2 wherein said incorporator circuit is operably coupled with said decoder adapted to receive said data input.
4. The apparatus of Claim 3 wherein said incorporator circuit comprises a Field Programmable Gate Array adapted to execute a firmware routine adapted to insert said address value into said data input and adapted to insert said data input into said data stream.

5. The apparatus of Claim 1 wherein said data distributor circuit comprises a Field Programmable Gate Array adapted to execute a firmware routine adapted to filter said data stream with respect to said relational code.

6. The apparatus of Claim 5 wherein said data stream is a data cell-based data stream having a plurality of data packets.

7. A multimedia network card comprising:
a deserializer coupled to a serial data stream, said deserializer adapted to convert said serial data stream to a parallel data stream representing a plurality of data of said serial data stream;

a receiver coupled to said deserializer, said receiver having a relational code adapted to determine whether an address field of said parallel data stream designates local distribution;

a decoder in communication with said receiver, said decoder having a virtual channel filter adapted to filter said address field to route said data packet to at least one data port; and

a serializer coupled to said receiver, said serializer adapted to convert an output data stream from said receiver into an output serial data stream.

8. The multimedia network card of Claim 7 further comprising:
an incorporator coupled to said decoder, said incorporator adapted to insert an address value having a relational code and a virtual channel code in a data input from said

at least one data port, said incorporator adapted to insert said data input into said data stream; and

a second serializer coupled to said receiver, said second serializer adapted to convert an output data stream from said receiver into an output serial data stream.

9. The multimedia network card of Claim 8 further comprising a second deserializer coupled to said incorporator and said serial data stream, said second deserializer adapted to convert a parallel data stream into a serial data stream such that said incorporator is adapted to provide a redundant receiver function to said receiver.

10. The multimedia network card of Claim 9 wherein said incorporator circuit comprises a Field Programmable Gate Array adapted to execute a firmware routine adapted to insert said address value into said data input and adapted to insert said data input into said data stream.

11. The multimedia network card of Claim 10 wherein said receiver comprises a Field Programmable Gate Array adapted to execute a firmware routine adapted to filter said data stream with respect to said relational code.

12. The multimedia network card of Claim 11 wherein said data stream is a data cell-based data stream having a plurality of data packets.

13. A method of interfacing an multimedia communications data stream having a plurality of data packets, the method comprising:

- (a) receiving a data packet of the plurality of data packets;
- (b) determining whether an address field of the data packet is intended for local distribution;
- (c) routing the data packet to a data port if the data packet is intended for local distribution; and
- (d) returning the data packet to the data stream if the data packet is not intended for local distribution.

14. The method of Claim 13 further comprising the step of:

- (e) incorporating a data packet from a local data port into the data stream for transmission.

15. The method of Claim 14 further comprising the steps of:

- (f) repeating steps (a) through (e) for the plurality of data packets.

16. The method of Claim 13 further comprising the step of:

returning the packet to the data stream if the data packet is identified as a broadcast packet (TV) or a multiple addressed packet addressed to several user nodes.